

## **REMARKS / ARGUMENTS**

### **I. Introduction**

The present Amendment is in response to the Office Action mailed April 2, 2007. The Office Action indicated that claims 1-4, 6-10, 12-24, 27, 29-32, 34-39 and 41-45 are pending and are rejected. Claim 1 was objected to. The Office Action raised various rejections to the pending claims over the art based on 35 U.S.C. §§ 102 and 103.

In the prior Office Action dated September 20, 2006, it was indicated that Claims 12-20 and 44 were allowed and claim 33 would be allowable if rewritten in independent form including all the limitations of the base claim and any intervening claims. Applicant notes that this allowance was over the Wolter patent which is the same art that is cited below. In its response of March 20, 2007, Applicant did not amend the allowed claims and amended claim 33 as instructed. In the present Office Action mailed April 2, 2007, in spite of no amendments being made, claims 12-20 and 44 are now rejected. Similarly, claim 33 is rejected in spite of Applicant following the instructions of the Office Action. The Office Action of April 2, 2007, contained no indication of the withdrawal of the allowance or the reasons for such a withdrawal. Applicant submits that claim 12 as previously submitted is still allowable and respectfully requests reconsideration of these rejections. In the event the rejections are not withdrawn, Applicant has amended claim 12 for clarity and believes it is still in a condition for allowance.

In the present Amendment, claims 1, 12, 21 and 32 are amended and presented herein. As a result, claims 1-4, 6-10, 12-24, 27, 29-32, 34-39 and 41-45 are now pending in view of the above amendments. Applicant respectfully submits that no new matter has been added and that the claims are now in a condition for allowance.

Please note that the following remarks are not intended to be an exhaustive enumeration of the distinctions between any cited references and the claimed invention. Applicant does not admit any characterizations of the cited art not specifically addressed herein and Applicant reserves the right to present arguments at a future time if necessary. For the Examiner's convenience and reference, Applicant's remarks are presented in the order in which the corresponding issues were raised in the Office Action.

## **II. Rejections under 35 U.S.C. § 102**

In the Office Action claims 12-24, 27, 29-32, 34-39, 44, and 45 were rejected under 35 U.S.C. § 102 as being anticipated by United States Patent No. 4,550,689 issued to Wolter ("the Wolter patent").

The Wolter patent discloses a gas instantaneous water heater in which water passing through the coils 31, 32, 33 and 34 are heating by gas nozzles 24. *See* Col. 5, ll. 25-43. More specifically, the water heater includes gas nozzles 24 which are shaped as cylindrical domes (col. 5, ll. 15-16), and serially connected coils. Col. 5, ll. 31-32. "Three of the coils 31, 32, and 33 are wound around and above the nozzles of the gas jets, while the fourth coil 34 extends over the top of all three coils, and thus receives residual heat rising from each of the coils and from each of the gas nozzles." Col. 5, ll. 35-18.

### **Claim 12**

In the Office Action it is asserted that the limitation in claim 12 reciting that the fuel burner is "positioned such that the flame of the fuel burner is substantially perpendicular to the coiled tubing being directly heated" is met because there is "nothing between the coil 34 and the burner 24 except air so that the coil is directly above the burner 24." Applicant respectfully submits that the claim does not recite that the coil is "directly above the burner 24." Rather, the claim requires that coiled tubing is "directly heated".

In an effort to clarify the claim language, claim 12, as amended and presented herein, now expressly requires that the fuel burner is "entirely outside of the coiled tube" and that the fuel burner is "positioned such that the flame of the fuel burner is substantially perpendicular to the coiled tube and is in direct thermal communication thereto." Accordingly, contrary to the assertion made in the Office Action, to which Applicant disagrees, the burners in Wolter are not "positioned such that the flame of the fuel burner is substantially perpendicular to the coiled tube and is in direct thermal communication thereto" as recited in claim 12. In fact, the gas nozzles 24 in Wolter are inside coils 31-33 and substantially parallel to coils 31-33 with which they are in "direct thermal communication". Any heating of coil 34 is due to "**residual heat** rising from each of the coils and from each of the gas nozzles." Col. 5, ll. 35-18 (emphasis added). "Residual heat" is the leftover or remainder of the heat which comes off of coils 31-33. Therefore, coil 34 is not in "direct thermal communication" with the fuel burner as required.

Accordingly, for at least these reasons, Applicant submits that claim 12 overcomes the cited art and is in condition for allowance. The dependent claims 13-20 and new dependent claim 43 also overcome the cited art for at least the same reasons.

#### Claim 21

Claim 21, as amended and presented herein, likewise expressly requires that the heat transfer conduit is in "direct thermal communication with the fuel burner" and that the fuel burner is "entirely outside of the heat transfer conduit." In the Wolter patent none of the nozzles of the gas jets are "entirely out side a heat transfer conduit" in which they are in "direct thermal communication." In fact, the Wolter patent discloses just the opposite by stating that "[t]hree of the coils 31, 32, and 33 are wound around and above the nozzles of the gas jets." Col. 5, ll. 35-18 (emphasis added). In other words, all three of the nozzles of the gas jets have a coil wound around them and thus they are not "entirely out side a heat transfer conduit."

In addition, claim 21 expressly requires that the fuel burner be adjustable or "incrementally operable." In contrast, the Wolter patent neither teaches nor suggests that the gas nozzles 24 are adjustable or "incrementally operable" as recited in claim 21. Instead, the Wolter patent teaches a device that is operated using a "electric faucet, a separate switch, or water pressure drop switch 53." Col. 7, ll. 59-61. Likewise, the heater of the Wolter patent is turned off by "deactivating the electric faucet, or flipping the separate switch." Col. 8, ll. 19-21. The heater in the Wolter patent is either on or it is off.

Accordingly, for at least these reasons, Applicant submits that claim 21 overcomes the cited art and is in condition for allowance. The dependent claims 22-24, 27, 29-31 and 45 also overcome the cited art for at least the same reasons.

#### Claim 32

Claim 32, as amended and presented herein, expressly requires "at least one fuel burner being in direct thermal communication with the at least one heat transfer conduit." The Wolter patent does not met this limitation as discussed above. Rather, none of the nozzles in the Wolter patent are "in direct thermal communication" with coil 34. Instead, coil 34 is heated by "**residual heat** rising from each of the coils and from each of the gas nozzles." Col. 5, ll. 35-18 (emphasis added). Accordingly, the Wolter patent neither teaches nor suggests a device in which

the gas nozzles 24 are in "direct thermal communication with the at least one heat transfer conduit" and "entirely outside of each coiled tube." As discussed, relative to claim 12, coil 34 of the Wolter patent is heated by "residual heat rising from the coils and from each of the gas nozzles" rather than "direct thermal communication" as required by claim 32.

Accordingly, for at least these reasons, Applicant submits that claim 32 overcomes the cited art and is in condition for allowance. The dependent claims 34-39 also overcome the cited art for at least the same reasons.

### **III. Rejections under 35 U.S.C. § 103**

In the Office Action, claims 1-4, 6-10 and 41-43 were rejected as being obvious over the Wolter Patent in view of United States Patent No. 3,935,855 ("the van Vliet patent"). In the Office Action it is asserted that the van Vliet patent teaches a heating assembly and that it would have been obvious to modify the heating system in the Wolter patent in view of the system in the van Vliet patent. Applicant respectfully disagrees and traverses. The Wolter patent and the present application are directed at heating water while the van Vliet patent is directed to heating air.

Further, Applicant respectfully asserts that claims 1-4, 6-10, and 41-43 are not obvious over the Wolter patent in view of the van Vliet patent for the reasons set forth below. To set forth a *prima facie* case of obviousness the following elements must be shown, according to M.P.E.P. Section 2143 (with emphasis added):

- (1) **suggestion** either in the patents themselves or in the knowledge available to one skilled in the art, to modify the patent or combine patent teachings;
- (2) a reasonable expectation of success; and
- (3) the combined patents must teach or suggest all the claim limitations of the applicant's claims.

As discussed above, the Wolter patent discloses a gas instantaneous water heater in which water passing through the coils 31, 32, 33 and 34 are heating by gas nozzles 24. *See* Col. 5, ll. 25-43. Applicant respectfully submits that these two patents are nonanalogous art and are being improperly combined. Applicant respectfully asserts that there is no teaching or suggestion to

combine the teachings of the Wolter patent which is directed to heating water with the van Vliet patent which is directed to heating air for a central heating system. In the Office Action it is asserted that "it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the Wolter heating system in view of the teachings of van Vliet to have each of the burners 24-26 independently operable."

Applicant notes that the van Vliet patent issued in February 1976, while the Wolter patent was filed in October 1983. As a result, if there was such a teaching or suggestion to combine making a such combination obvious to one skilled in the art, one would expect that after over seven years since the van Vliet patent issued, Mr. Wolter would have and could have incorporated the teachings of the van Vliet patent into his technology. Applicant, therefore, respectfully requests that the obviousness rejection based on the combination of the Wolter patent with the van Vliet patent, including with respect to claims 1-4, 6-10, and 41-43 be withdrawn.

Even if the suggested combination is made, to which Applicant disagrees, combining the Wolter patent and the van Vliet patent does not teach or suggest all of the limitations recited in claim 1. In particular, independent claim 1, as amended and presented herein, expressly recites that "each of said plurality of fuel burners is entirely outside of each of the at least one heat transfer conduit." As discussed above, the Wolter patent discloses just the opposite by stating that "[t]hree of the coils 31, 32, and 33 are wound around and above the nozzles of the gas jets." Col. 5, ll. 35-18 (emphasis added). In other words, in the Wolter patent none of the nozzles of the gas jets are "entirely out side a heat transfer conduit." In fact, all three of the nozzles of the gas jets have a coil wound around them, and thus, they are not "entirely outside each of the at least one heat transfer conduit." There is no teaching or suggestion in the van Vliet patent of such a limitation.

As such, Applicant respectfully submits that claim 1 is neither anticipated nor obvious in view of the Wolter patent or the van Vliet patent, alone or in combination. Further, claims 2-4, 6-

10, and 41-43 depend, whether directly or indirectly, from an independent claim. As such, Applicant respectfully submits that claims -4, 6-10, and 41-43 incorporate the limitations of claim 1 therein, and for the reasons discussed above are neither anticipated nor obvious in view of the Wolter patent or the van Vliet patent, alone or in combination.

**IV. Conclusion**

Applicant respectfully submits that claims 1-4, 6-10, 12-24, 27, 29-32, 34-39 and 41-45, as amended and presented herein, are in a condition for allowance. In the event that the Examiner finds remaining impediment to a prompt allowance of this application that may be clarified through a telephone interview, the Examiner is requested to contact the undersigned attorney.

Dated this 2<sup>nd</sup> of October, 2007.

Respectfully submitted,

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